

DOCKET: CU-2675

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Takayasu KOMATSU et al. )  
SERIAL NO: 09/964,189 ) Group Art Unit: 2879  
FILED: September 26, 2001 ) Examiner: Sikha Roy  
TITLE: SHADOW MASK FOR A CATHODE RAY TUBE

THE COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

AMENDED CLAIMS

1. (currently amended) A shadow mask in which throughholes are formed, each of said throughholes having a rear side hole portion through which an electron beam enters and a front side hole portion through which the electron beam is emitted so as to form a beam spot having a prescribed shape on a surface to be irradiated;

wherein, each of said throughholes has a ridge portion formed by intersection of an inwardly tapered surface of said rear side hole portion and a taper surface of said front side hole portion;

wherein each of the throughholes at the front and rear side hole portions is circularly shaped;

wherein the front side portion of the throughholes, except the throughholes at the center portion of the shadow mask, is gradually shifted toward the outer peripheral side of the shadow mask relative to the rear side hole portion;

the taper size  $T = (S - Q)/2$  as an average value of the individual portions of the taper surfaces which is represented by a value a half the difference between the hole width  $S$  at the end of said front side hole portion and the hole width  $Q$  at said ridge portion is within a range of from 30 to 40% of the thickness of said shadow mask; and

said ridge portion is formed at a sectional height of up to 35  $\mu\text{m}$  from the end of said rear side hole portion.

2. (previously presented) A shadow mask according to claim 1, wherein the taper size T as an average value of the individual portions of the taper surfaces in a peripheral portion of said shadow mask is within a range of 30 to 40% of the thickness of said shadow mask.